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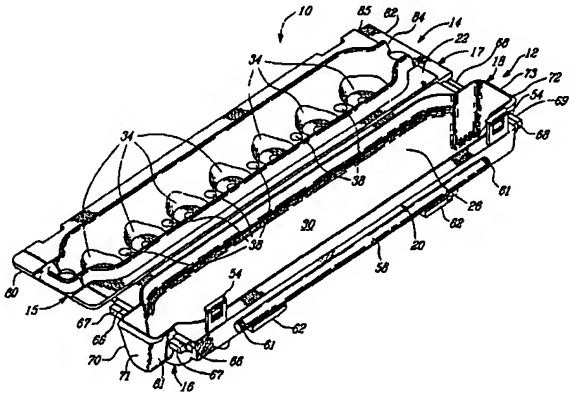
(54) CONTENANT MOULE POUR LA CULTURE HYDROPONIQUE ET SYSTEME HYDROPONIQUE UTILISANT LEDIT CONTENANT

(54) MOLDED CONTAINER FOR HYDROPONIC CULTURE AND HYDROPONIC SYSTEM USING SAME

(57)

Disclosed herein is a container for hydroponic culture comprising a longitudinal body and a cover configured and sized so as to be removably mounted to the longitudinal body. The longitudinal body has first and second longitudinal ends and first and second lateral sides. The longitudinal body is defined by spaced apart outer and inner walls which form a body cavity therebetween. This body cavity may include insulation material or preferably insulation fluid. The inner wall defines a longitudinal channel. The cover includes at least one plant receiving aperture and defines with the longitudinal body inner wall a hydroponic chamber therebetween for receiving plant roots. Also disclosed is a hydroponic culture system using this container. The containers of this hydroponic culture system may be interconnected side to side and end to end.



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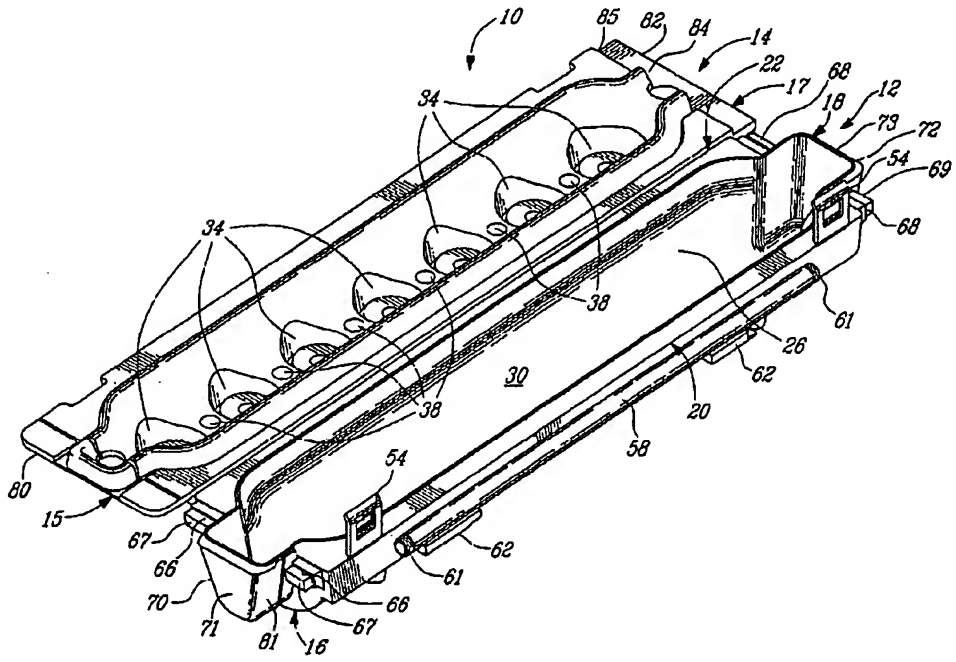
(54) Title: MOLDED CONTAINER FOR HYDROPONIC CULTURE AND HYDROPONIC SYSTEM USING SAME



(57) Abrégé/Abstract:
Disclosed herein is a container for hydroponic culture comprising a longitudinal body and a cover configured and sized so as to be removably mounted to the longitudinal body. The longitudinal body has first and second longitudinal ends and first and second lateral sides. The longitudinal body is defined by spaced apart outer and inner walls which form a body cavity therebetween. This body cavity may include insulation material or preferably insulation fluid. The inner wall defines a longitudinal channel. The cover includes at least one plant receiving aperture and defines with the longitudinal body inner wall a hydroponic chamber therebetween for receiving plant roots. Also disclosed is a hydroponic culture system using this container. The containers of this hydroponic culture system may be interconnected side to side and end to end.

ABSTRACT OF THE DISCLOSURE

Disclosed herein is a container for hydroponic culture comprising a longitudinal body and a cover configured and sized so as to be removably mounted to the longitudinal body. The longitudinal body has first and second longitudinal ends and first and second lateral sides. The longitudinal body is defined by spaced apart outer and inner walls which form a body cavity therebetween. This body cavity may include insulation material or preferably insulation fluid. The inner wall defines a longitudinal channel. The cover includes at least one plant receiving aperture and defines with the longitudinal body inner wall a hydroponic chamber therebetween for receiving plant roots. Also disclosed is a hydroponic culture system using this container. The containers of this hydroponic culture system may be interconnected side to side and end to end.

TITLE OF THE INVENTION

MOLDED CONTAINER FOR HYDROPONIC CULTURE AND HYDROPONIC SYSTEM USING SAME

FIELD OF THE INVENTION

The present invention generally relates to hydroponic culture. More specifically, the present invention is concerned with a molded container for hydroponic culture and with a hydroponic system using such a container.

BACKGROUND OF THE INVENTION

Hydroponic culture is widely known as a method for growing plants without soil, in which the plant roots are brought into contact with water containing dissolved nutrients. Small particles of a chemically inert material, such as, for example, expanded perlite or expanded clay, are generally provided in a net pot both to support the roots and to allow the water to adequately contact the roots.

Different methods exist to supply nutrient containing water to the roots of the plants. One method is the Nutrient Film Technique which consists of flooding the container with the nutrient containing water, a second method consists of supplying a minute quantity of nutrient containing water to the roots and a third method, known as aeroponic culture, consists of periodically spraying the roots

with nutrient containing water onto the roots to keep them moist. In this method, humidified air provides the environment in which the plant roots grow.

While many types of containers may be used for the different classes of hydroponic culture generally defined hereinabove, it has been found that conventional containers suffer many drawbacks.

One such drawback is the fact that the temperature in the container may rise or fall to undesired degrees hence, impeding the adequate growth or even survival of the plant. This is common in non temperate climates such as, for example, deserts where temperatures rise and fall dramatically within the same twenty-four hour period.

OBJECTS OF THE INVENTION

The general object of the present invention is therefore to provide an improved container for hydroponic culture.

SUMMARY OF THE INVENTION

More specifically, in accordance with one aspect of the present invention, there is provided a container for hydroponic culture comprising:

a longitudinal body having first and second longitudinal ends and first and second lateral sides, said longitudinal body being defined by spaced apart outer and inner walls, said spaced

apart outer and inner walls defining a body cavity therebetween, said inner wall defining a longitudinal channel; and

a cover configured and sized so as to be removably mounted to said longitudinal body, said cover including at least one plant receiving aperture, said cover and inner wall defining a hydroponic chamber therebetween.

In accordance with another aspect of the present invention, there is provided a hydroponic culture system comprising:

at least one container for hydroponic culture including:

a longitudinal body having first and second longitudinal ends and first and second lateral sides, said longitudinal body being defined by spaced apart outer and inner walls, said spaced apart outer and inner walls defining a body cavity therebetween, said inner wall defining a longitudinal channel, said first and second longitudinal ends including body outlet and inlet apertures respectively, said body outlet and inlet apertures being contiguous with said body cavity; and

a cover configured and sized so as to be removably mounted to said longitudinal body, said cover including at least one plant receiving aperture and at least one spray head receiving aperture for receiving a spray head, said cover and inner wall defining a hydroponic chamber therebetween;

a support assembly to support at least one said container; and

a fluid delivery assembly including:

a water-supply member having a water inlet and a water outlet so configured as to be connected to a spray head.

BRIEF DESCRIPTION OF THE DRAWINGS

In the appended drawings like reference numbers indicate like elements throughout:

Figure 1 is a perspective view illustrating a container for hydroponic culture according to a preferred embodiment of the present invention, shown in an open position;

Figure 2 is a perspective view illustrating the container of figure 1 shown in a closed position;

Figure 3 is a side elevational view illustrating a hydroponic culture system according to an aspect of the present invention using containers of figure 1;

Figure 4 is a top plan view of the hydroponic culture system of figure 3;

Figure 5 is a sectional view taken along the line 5-5 of figure 4;

Figure 6 is a sectional view taken along the line 6-6 of figure 4;

Figure 7 is a sectional view taken along the line 7-7 of figure 4;

Figure 8 is a sectional view taken along the line 8-8 of figure 4; and

Figure 9 is a sectional view taken along the line 9-9 of figure 4.

DESCRIPTION OF THE PREFERRED EMBODIMENT

Referring now to figures 1, 2, 5 and 9 of the appended drawings, a container 10 for hydroponic culture according to a preferred embodiment of the present invention will be described.

Figure 1 and 2 respectively show container 10 in its open and closed position. Container 10 has a longitudinal body 12 and a cover 14 configured and sized to be removably mounted to the longitudinal body 12. The longitudinal body 12 and the cover 14 are preferably moulded from plastic material such as, for example ???.

The longitudinal body 12 has opposite first and second ends 16 and 18 respectively, and opposite first and second lateral sides 20 and 22 respectively.

It must be noted that the terms "first" and "second" are used herein throughout only to facilitate the present decryption and hence are interchangeable except where specifically mentioned.

With particular reference to figure 5, it is shown that the longitudinal body 12 is defined by spaced apart inner and outer walls 24, 26 respectively defining a body cavity 28 therebetween. The body cavity 28 may contain insulation material preferably, an insulation fluid and more preferably water. The inner wall 24 is inwardly recessed to define a longitudinal channel 30 as better shown in figure 1. Referring back to figure 5, the longitudinal body 12 includes a flat bottom leg 32 so as to allow the container 10 to be placed on a horizontal surface.

Turning again to figures 1 and 2, the cover 14 includes a plurality of plant receiving apertures 34 configured and sized for receiving conventional net pots 35 which may hold a variety of plant types (not shown). These plant receiving apertures 34 may be covered as will be later described. When the cover 14 is in the closed position, as shown in figure 2, the cover 14 and the inner wall 26 of the longitudinal body 12 define a hydroponic chamber 36 (as better shown in Figure 5) therebetween.

It is within this hydroponic chamber 36 that the roots (not shown) of a variety of plants are held by the net pot 35 and wherein water containing dissolved nutrients are supplied to these roots. Nutrient containing water may be introduced into this hydroponic chamber 36 by a variety of methods and ways known to the person skilled in the art. Container 10 is particularly advantageous for aeroponic culture i.e. the hydroponic culture where the nutrient containing water is periodically sprayed onto the plant roots placed in the hydroponic chamber 36 to keep them moist.

In the case of aeroponic culture, the cover 14 may also include a plurality of spray head receiving apertures 38, as better shown in figures 1 and 2, for receiving a conventional spray head 40 (see figure 5). These spray head receiving apertures 38 may be covered as will be later explained. Preferably each spray head receiving aperture 38 is adjacent to a plant receiving aperture so that the spraying tip 41 of a spray head 40 may hang next to the plant roots held within the net pot 35.

Preferably, the plant receiving and spray head receiving apertures 34 and 38 are covered by respective removable aperture coverings 42 and 44 integral with the cover 14. Aperture coverings 42 and 44 may include breakable weak portions 33 (see figure 9) so that they may be easily broken off cover 14 to expose the respective apertures 34, 38 that they were covering. As shown in figure 9, a plant receiving aperture covering 42 may also include at its center a spray head receiving aperture covering 44. Therefore, the user may decide to either break the weak 33 portions surrounding aperture covering 42, exposing the plant receiving aperture 34, or to break the weak portions 33 surrounding aperture covering 44, exposing the spray head aperture 38.

With particular reference to figure 5, the cover 14 may also include spaced apart inner and outer walls 46 and 48 defining a cover cavity 50 therebetween. Preferably, the cover cavity 50 includes insulation material 52. Advantageously, the inner wall 46 is domed so as to define a generally tubular hydroponic chamber 36 with the longitudinal body channel 30 formed by the inner wall 24. The cover 14 may be hingeably mounted to either one of the first or second lateral

sides 20, 22 of the longitudinal body 12. In the present example, the cover 14 is hingeably mounted on the second lateral side 22 via hinges 47. Hence, the cover 14 may easily open and close, as shown in figures 1 and 2 respectively.

The longitudinal body 12 and cover 14 include complementary fastening elements 54 and 56 respectively for releasably and securely fastening the cover 14 to body 12. In the present example, fastening elements 54 are mounted on the first lateral side 20. Preferably, the longitudinal body fastening elements 54 are clip members and the cover fastening elements 56 are configured and sized to be engaged by these clip members 54 in a mutual fastening fit. Obviously, other types of fastening elements may also be designed.

As can be better seen in figure 5, a water supply member, preferably in the form of a longitudinal pipe 58, is mounted on at least one lateral side 20, 22 of the longitudinal body. In the shown example, a pipe 58 is mounted to the lateral side 20. The pipe 58 includes water outlets 59 for supplying water into the hydroponic chamber 36 via the spray heads 40. Water may be delivered to the spray head 40 by way of a water delivery member such as tubes 60 which are mounted by conventional methods at one end to the water outlet 59 and at the other end to the spray head 40. The tubes 50 may be a rubber hose or any suitable tube-like member for delivering water. The pipe 58 includes a water inlet at one of either longitudinal ends 61, depending on the direction of water flow, to draw water from a conventional water reservoir (not shown) by way of a pump (not shown). The pipe 58 may be constructed by a plurality of pipe

members 58' (shown in dotted line in figure 2) having complementary screw threads 57 so as to be fastened end to end.

The container 10 also includes water supply pipe carrying members in the form of short fins 62 for example which protrude outwardly from at least one of the first and second lateral sides 20, 22 for carrying the pipe 58. The fins 62 preferably have a grooved upper surface 65 for fitting the pipe 58 thereon preventing it from falling off.

Container 10 further includes a laterally projecting longitudinal extension 64, which partially covers the pipe 58 from light, specifically sunlight, when the present container 10 is placed outdoors.

The insulation material 29 provided in the body cavity 28 and the insulation material 52 in the cover cavity 50 substantially prevent the temperature in the hydroponic chamber 36 from varying according to the outer ambient temperature. Furthermore, the lateral cover edge 64 also partially protects the pipe 58 from sunlight, substantially preventing the temperature of the water contained in the pipe 58 from rising. In this way, the present container 10 may be used outdoors in a region having a non-temperate climate presenting high temperature and high sun intensity in the day and very low temperature at night such as a desert, for example.

Returning to figure 1, each longitudinal end 16 and 18 of the longitudinal body 12 includes first and second projecting members or stubs 66 and 68. Stubs 66 and 68 are provided with caps 67 and 69 which may be cut open to form respective apertures (such as apertures 86 and 88 in figure 7) that are contiguous with the body

cavity 28. The purpose of these apertures will be described hereinbelow.

Hence, the above-mentioned apertures of stubs 66 and 68 may serve as either body cavity inlets or outlets for introducing material into the body cavity and for dispensing it out of the body cavity. Specifically, these apertures serve as either insulation fluid inlets or outlets depending on whether insulation fluid 29 flows within the body cavity 28 from end 16 towards end 18 or from end 18 towards end 16. It is within the scope of the invention that insulation fluid 29 may flow in either direction. In this way, insulation fluid enters body cavity 28 through the fluid inlet and exits through the fluid outlet providing for a constant flow of insulation within the cavity 36.

This above-mentioned flow constantly renews the insulation fluid 29 within the body cavity 28 preventing it from substantially varying from the desired temperature in order to further facilitate the hydroponic chamber 36 to maintain a constant and desirable temperature in accordance with the needs of the roots of the specific plant being grown in container 10.

The longitudinal body 12 of container 10 may include similar first and second connecting portions 70 and 72 at the first and second longitudinal ends 16 and 18, respectively, for interconnecting two similarly constructed containers 10 end to end. In this example, the first and second connecting portions may be outward body projections 70, 72 longitudinally and outwardly projecting from the longitudinal body 12. The projections 70 and 72 are respectively closed by end caps 71 and 73 which may be cut open when

interconnecting two containers 10 end to end (as will be explained hereinbelow). Preferably, the body projections 70, 72 have respective widths that are smaller than the width of the longitudinal body 12.

With particular reference to figures 3, 4, 6, 7 and 8, the hydroponic culture system 11 comprising at least one container 10 for hydroponic culture, according to a preferred embodiment of the present invention, will be described.

As shown in figure 3, the hydroponic culture system 11 includes a support assembly 74 including a table 75 having a flat top surface 76 on which the containers 10 are placed with their flat bottom legs 32 lying flush therewith. The table 75 may be mounted on legs 78 so that it is upstanding from the ground. Preferably, the table member 75 is sloped so that when supporting a container 10, one longitudinal end 16 or 18 is vertically higher than the other longitudinal end 16 or 18. In this example, it is the first longitudinal end 16 that is vertically higher than the second longitudinal end 18 (see spacing 93).

Figures 3 and 4 show that a plurality of containers 10 can be placed on the table 75 and connected end to end and side to side as will be described hereinbelow.

When interconnecting two containers 10 end to end, the caps 71 and 73 (see figure 1) of the first and second body projections 70 and 72 are cut open. The cut open body projections 70 and 72 are configured and sized so that one of either body projections 70 or 72 of one interconnected container 10 may be snugly fitted within the other body projection 70 or 72 of the other interconnected container 10.

With reference to figure 8, the first body projection 70 of one interconnected container 10 is fitted within the second body projection 72 of the other interconnected container 10 forming a contiguous hydroponic chamber 36 between these two interconnected containers 10.

In order to fit the body projection 70 in the body projection 72 the user may squeeze the resilient lateral walls 81 (see figure 1) of body projection 70 inwardly so that they may be slid within body projection 72 for a snug fit. The fitted first and second body projections 70 and 72 may include complementary male and female locking members 77 and 79 for being mutually interlocked.

Referring back to Figure 2, the cover may have different first and second ends 15 and 17 respectively.

The cover end 15 defines a flat lid 80 while the cover end 17 defines a domed overhang 82 having an underside 84. When the first body projection 70 is cut for interconnecting two containers 10 end to end, the flat lid 80 is also cut preferably along line 13-13, forming an edge (not shown) along this line 13-13.

As the body projections 70 and 72 of the two containers 10 are fitted together for interconnection, as described above, the cut flat lid 80 is slid beneath the underside 84 of the domed overhang 82 to a distance determined by the flat lid 80 front edge abutting an underside stopper structure 85.

Furthermore, the present invention provides for insulation fluid to flow from one interconnected container 10 to another

interconnected container 10 by providing for the above-mentioned fluid inlet apertures of one interconnected container 10 to be in fluid communication with the fluid outlet apertures of the other interconnected container 10 as will be described hereinbelow.

With reference to figure 7, the insulation fluid 29 flows from end 16 to end 18. The stub 66 of one interconnected container 10, defines a fluid inlet aperture 86. The stub 68 of the other interconnected container 10 defines a fluid outlet aperture 88.

The cut open stubs 66 of one interconnected container 10 is configured and sized so as to be snugly fitted within the cut stub 68 of the other interconnected container 10.

Therefore, the fluid inlet 88 of this one interconnected container 10 receives insulation fluid 29 from the other interconnected container 10. The flow of insulation fluid 29 from one container 10 to the other is aided by the slope of table member 75. In this way, there is a constant flow of insulation fluid 29 within the contiguous body cavities 28 of a series of containers 10 being interconnected end to end in accordance with the present hydroponic system 11.

It is within the scope of the present invention that other types of inlet and outlet apertures may be contemplated by the person skilled in the art in order to provide for insulation fluid 29 to flow from the body cavity 28 of one interconnected container 10 to the body cavity 28 another interconnected container.

Turning now to figures 4 and 6, when connecting the containers 10 of the hydroponic system 11 side to side, fins 62 of one

interconnected container 10 are interconnected to the fins 62 of the other interconnected container 10. The foregoing interconnection may be provided by a connector 90 connecting or bridging the fins 62 together, or by any type of suitable fastener.

In this way, the connected fins 62 of two containers 10 interconnected side by side may carry the same pipe 58. Hence, tubes 60 are mounted to respective water outlets 59 of this same pipe 58 at one end and to a respective spray head 40 one of these two interconnected containers at the other end. The extending edges of these two interconnected containers protect the pipe 58 from light such as sunlight, as can be better seen in Figure 6.

When adding more containers 10 in the a series of containers 10 connected end to end according to the present hydroponic system 11, the pipe may be elongated accordingly by adding on pipe members 58' as explained above.

The hydroponic system 11 also includes a conventional water source (not shown) such as a reservoir or a tank and a pump (not shown) to pump nutriment containing water into the pipe 58 and a water return member (not shown) such as a rubber tube mounted to a second outlet of pipe 58 at either end 61 (see figure 1) may be used to return excess water that was not sprayed unto the plant roots back to the water source.

The hydroponic system 11 also includes an insulation fluid source (not shown) such as a reservoir or a tank and a pump in order to pump insulation fluid 29 into the body cavity 28 via a container inlet aperture 86 and an insulation fluid return member (not shown)

mounted to a container outlet aperture 88 for returning the insulation fluid back to its source.

Of course, all other methods known to the skilled artisan for introducing water and/or insulation fluid to the present hydroponic system and for recuperating this water and/or insulation fluid may also be contemplated.

Since the principles of the aeroponic method for hydroponic culture is believed to be well known to those skilled in the art and are not within the scope of the present invention, they will not be explained in greater detail herein.

It is to be understood that the invention is not limited in its application to the details of construction and parts illustrated in the accompanying drawings and described hereinabove. The invention may be practised in various ways. It is also to be understood that the phraseology or terminology used herein is for the purpose of description only and not limitation. Hence, although the present invention has been described hereinabove by way of preferred embodiments thereof, it can be modified, without departing from the spirit, scope and nature of the subject invention as defined in the appended claims.

WHAT IS CLAIMED IS:

1. A container for hydroponic culture comprising:

a longitudinal body having first and second longitudinal ends and first and second lateral sides, said longitudinal body being defined by spaced apart outer and inner walls, said spaced apart outer and inner walls defining a body cavity therebetween, said inner wall defining a longitudinal channel; and

a cover configured and sized so as to be removably mountable to said longitudinal body, said cover including at least one plant receiving aperture, said cover and inner wall defining a hydroponic chamber therebetween.

2. A container for hydroponic culture according to claim 1, wherein said first and second longitudinal ends include respective complementary first and second connecting portions for interconnecting two containers end to end.

3. A container for hydroponic culture according to claim 1, wherein said cover includes a domed inner wall.

4. A container for hydroponic culture according to claim 1, wherein said cover further includes at least one spray head aperture configured and sized for receiving a spray head.

5. A container for hydroponic culture according to claim 1, wherein said cover further includes spaced apart outer and inner walls defining at least one cover cavity therebetween.

6. A container for hydroponic culture according to claim 5, wherein said cover cavity is at least partially filled with insulation material.

7. A container for hydroponic culture according to claim 1, wherein said body cavity includes insulation material.

8. A container for hydroponic culture according to claim 1, wherein said body cavity includes an insulation fluid.

9. A container for hydroponic culture according to claim 8, wherein said insulation fluid is water.

10. A container for hydroponic culture according to claim 1, wherein said cover is hingeably mounted to one of said first and second lateral sides, said longitudinal body further including a fastening element on the other of said first and second lateral sides, said cover including a fastening element complementary with said longitudinal body fastening element for mutual fastening engagement therewith.

11. A container for hydroponic culture according to claim 10, wherein said longitudinal body fastening element comprises a clip member and said cover fastening element is configured and sized to receive said clip member.

12. A container for hydroponic culture according to claim 4, wherein said plant receiving and spray head receiving apertures are covered by respective aperture coverings, integral with

said cover; said aperture coverings being removable from their respective apertures.

13. A container for hydroponic culture according to claim 12, wherein said aperture coverings include breakable weak portions.

14. A container for hydroponic culture according to claim 4, further comprising a longitudinal water-supply member mounted to at least one of said first and second lateral sides, said water-supply member including at least one water outlet so configured as to be connected to a spray head.

15. A container for hydroponic culture according to claim 14, wherein said water-supply member further includes a water-delivery member, said water-delivery member having one end configured so as to be connected to said water outlet and another end configured so as to be connected to a spray head.

16. A container for hydroponic culture according to claim 14, wherein at least one of said first and second lateral sides includes a longitudinal water-supply carrying member, said water-supply member being mounted on said water-supply carrying member.

17. A container for hydroponic culture according to claim 16, wherein said water-supply carrying member includes a connector for interconnecting two containers side by side, wherein when two containers are interconnected side by side their respective said water-supply carrying members are interconnected, said water-

supply member being mounted on both said interconnected water-supply carrying members.

18. A container for hydroponic culture according to claim 16, wherein said container further includes a lateral longitudinal extension on the same one of said first and second lateral sides as said water-supply carrying member, said lateral longitudinal extension at least partially covering said water-supply member mounted on said interconnected water-supply carrying member.

19. A container for hydroponic culture according to claim 18, wherein said cover includes said lateral longitudinal extension.

20. A container for hydroponic culture according to claim 8, wherein said first and second longitudinal ends include body outlet and inlet apertures respectively, said body outlet and inlet apertures being contiguous with said body cavity.

21. A container for hydroponic culture according to claim 20, wherein said first and second longitudinal ends include respective complementary first and second connecting portions for interconnecting two containers end to end, wherein when two containers are interconnected end to end said body outlet aperture of one interconnected container is contiguous with said body inlet aperture of the other interconnected container.

22. A container for hydroponic culture according to claim 21, wherein said first and second connecting portions are defined

by first and second body projections respectively, said first and second body projections outwardly projecting from said longitudinal body defining respective front sides, one of either said first and projecting portions of one interconnected container being configured and sized so as to be snugly fitted within the other of said first and second projecting portion of the other interconnected container, wherein said front sides of said fitted first and second body projections are open.

23. A container for hydroponic culture according to claim 22, wherein said first and second longitudinal ends include first and second protruding members respectively, said first and second protruding members outwardly protruding from said longitudinal body defining respective front sides, one of either said first and second projecting members of one interconnected container being configured and sized so as to be snugly fitted within the other of said first and second protruding member of the other interconnected container, wherein said front sides of said fitted first and second protruding members are open, wherein said open front side of either one of said fitted first and second protruding members defines said body inlet aperture and wherein said open front side of the other of said fitted first and second protruding members defines said body outlet aperture.

24. A container for hydroponic culture according to claim 23, wherein said first and second longitudinal ends include two said first protruding members and two said second protruding members respectively.

25. A container for hydroponic culture according to claim 1, wherein said longitudinal body and said cover are made from molded plastic.

26. A hydroponic culture system comprising:

at least one container for hydroponic culture including:

a longitudinal body having first and second longitudinal ends and first and second lateral sides, said longitudinal body being defined by spaced apart outer and inner walls, said spaced apart outer and inner walls defining a body cavity therebetween, said inner wall defining a longitudinal channel, said first and second longitudinal ends including body outlet and inlet apertures respectively, said body outlet and inlet apertures being contiguous with said body cavity; and

a cover configured and sized so as to be removably mounted to said longitudinal body, said cover including at least one plant receiving aperture and at least one spray head receiving aperture for receiving a spray head, said cover and inner wall defining a hydroponic chamber therebetween;

a support assembly to support at least one said container; and

a fluid delivery assembly including:

a water-supply member having a water inlet and a water outlet so configured as to be connected to a spray head.

27. A hydroponic culture system according to claim 26, wherein said body cavity includes insulation fluid, said body inlet aperture receiving said insulation fluid, said body outlet aperture dispensing said insulation fluid.

28. A hydroponic culture system according to claim 27 wherein said insulation fluid is water.

29. A hydroponic culture system according to claim 26, wherein said support assembly includes a support surface, said support surface supporting said container, said support being sloped so as for one said first and second longitudinal ends to be vertically higher than the other of said first and second longitudinal ends.

30. A hydroponic culture system according to claim 26, wherein said longitudinal body further includes complementary first and second connecting portions at said first and second longitudinal ends respectively for interconnecting two said containers end to end, wherein when two said containers are interconnected end to end said body outlet aperture of one said interconnected container is contiguous with said body inlet aperture of the other said interconnected container.

31. A hydroponic culture system according to claim 29, wherein said hydroponic chamber of one said interconnected container is contiguous with said hydroponic chamber of the other said interconnected container.

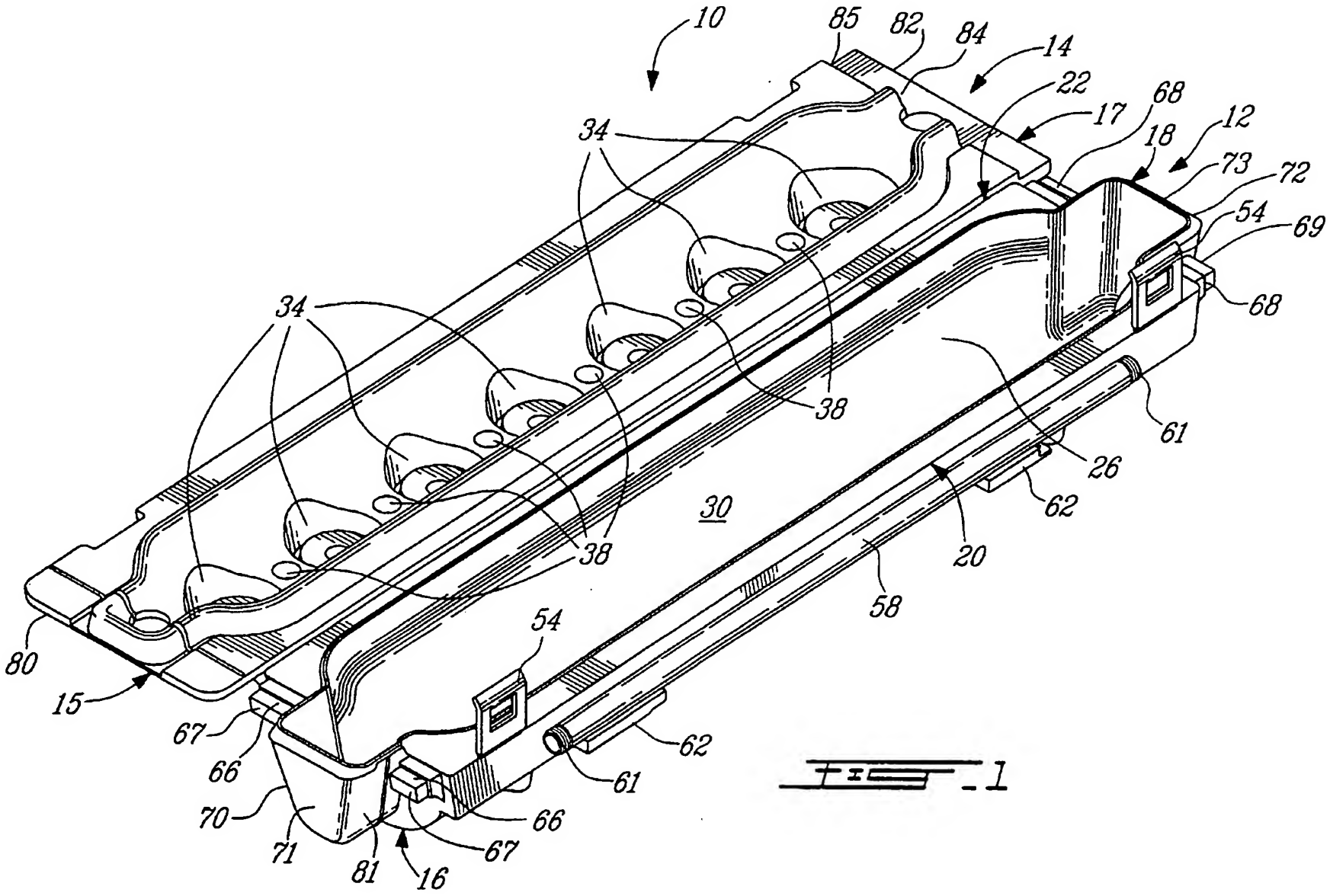

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FIG. 1

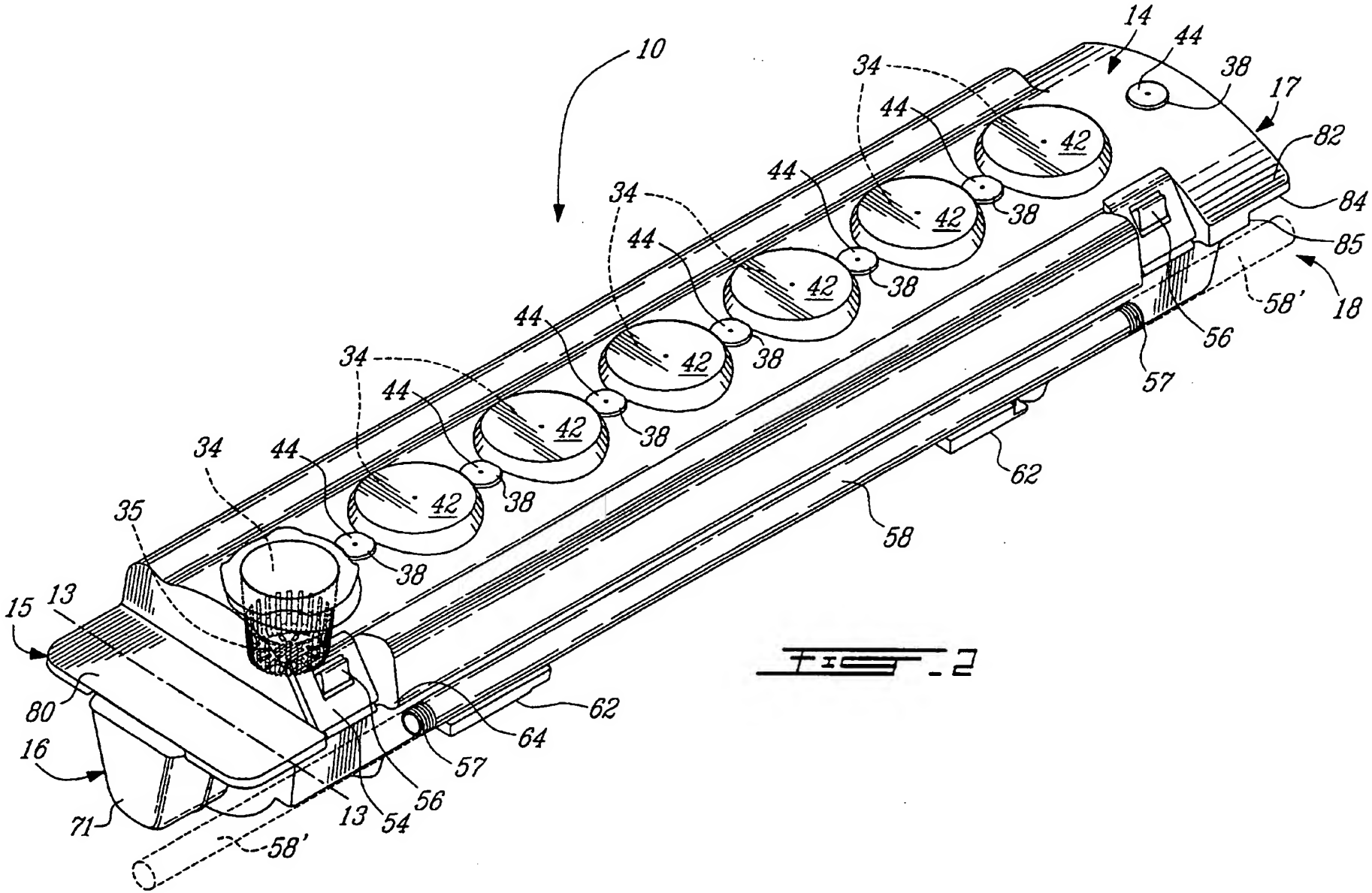
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Fig. 2

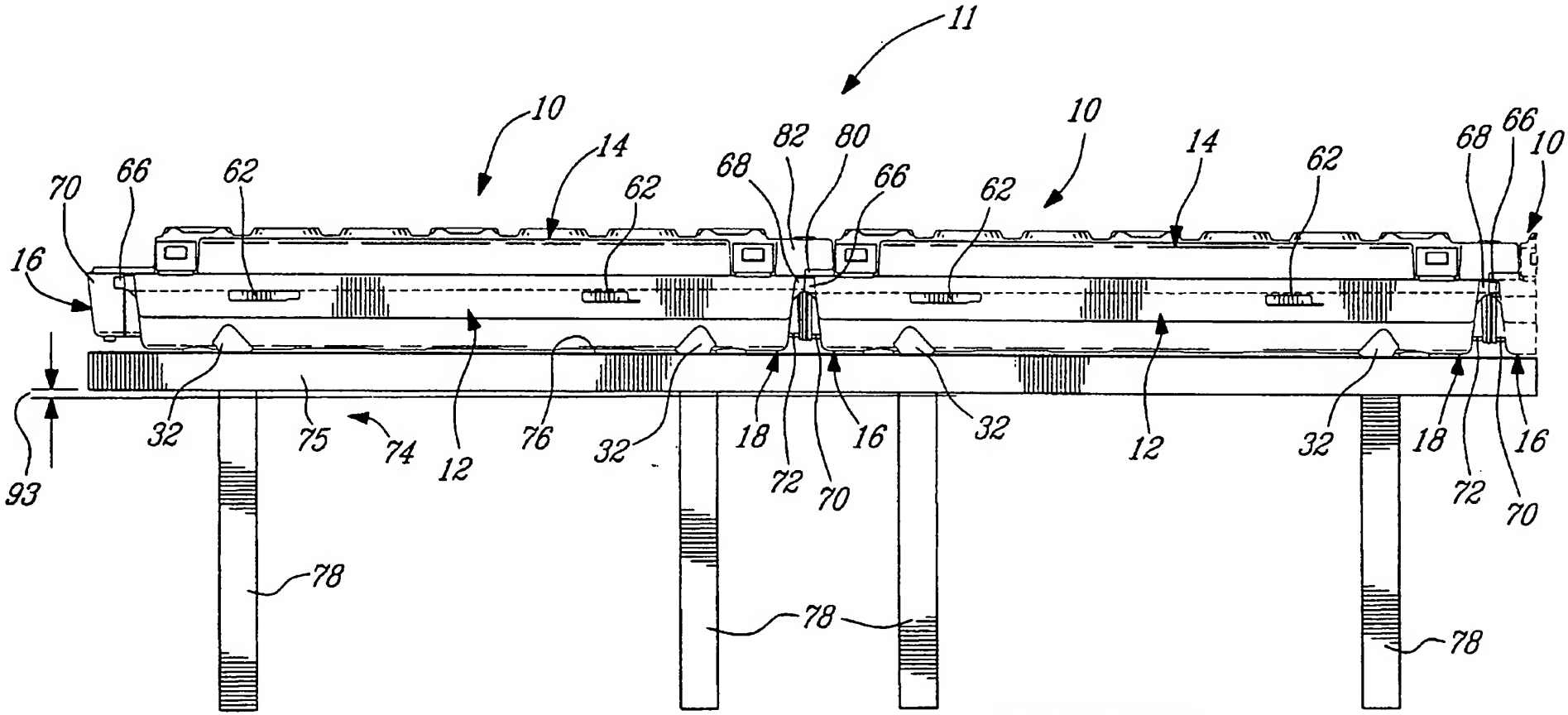
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Fig. 3

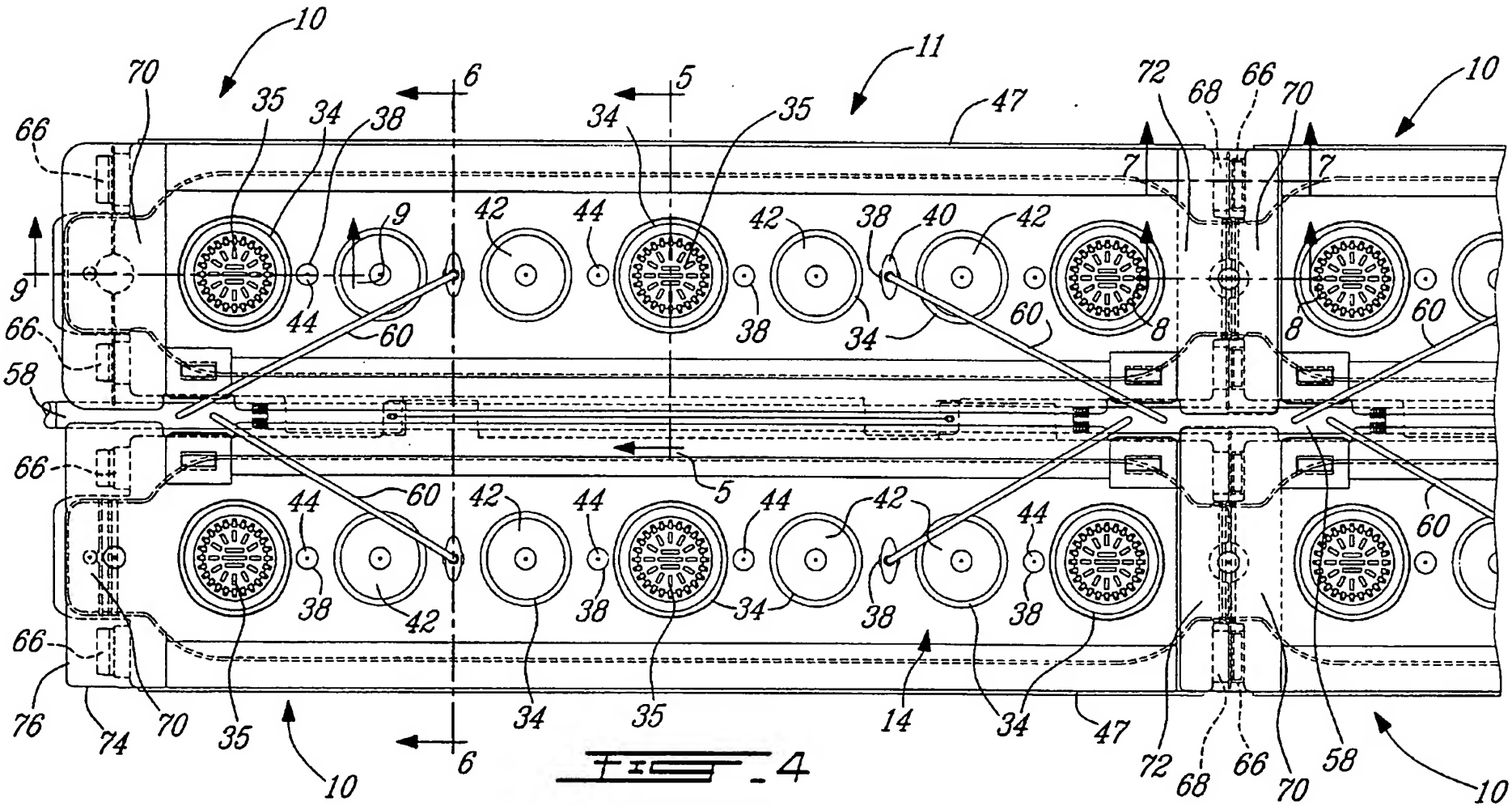
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FIG. 4

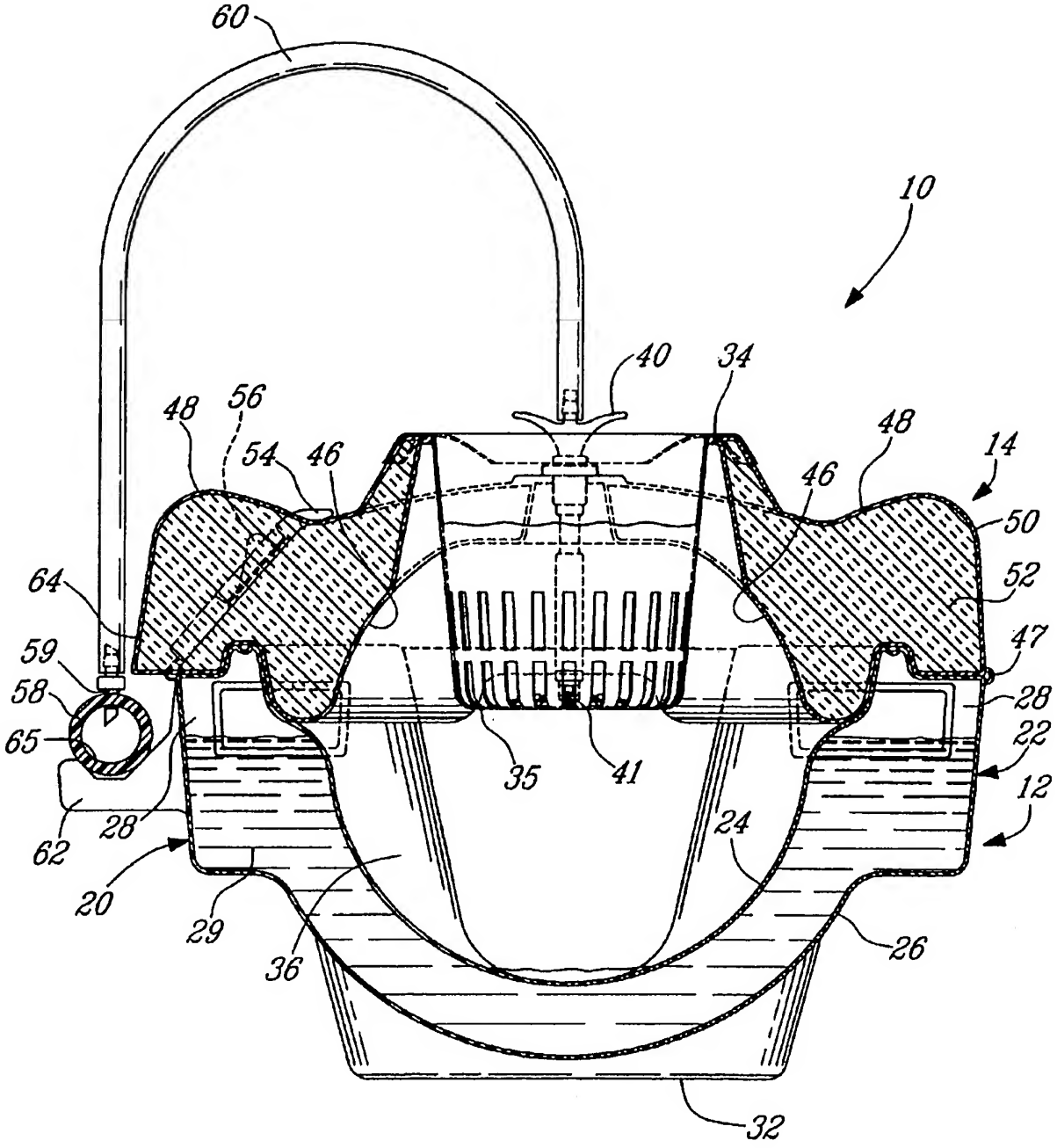
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Fig. 5

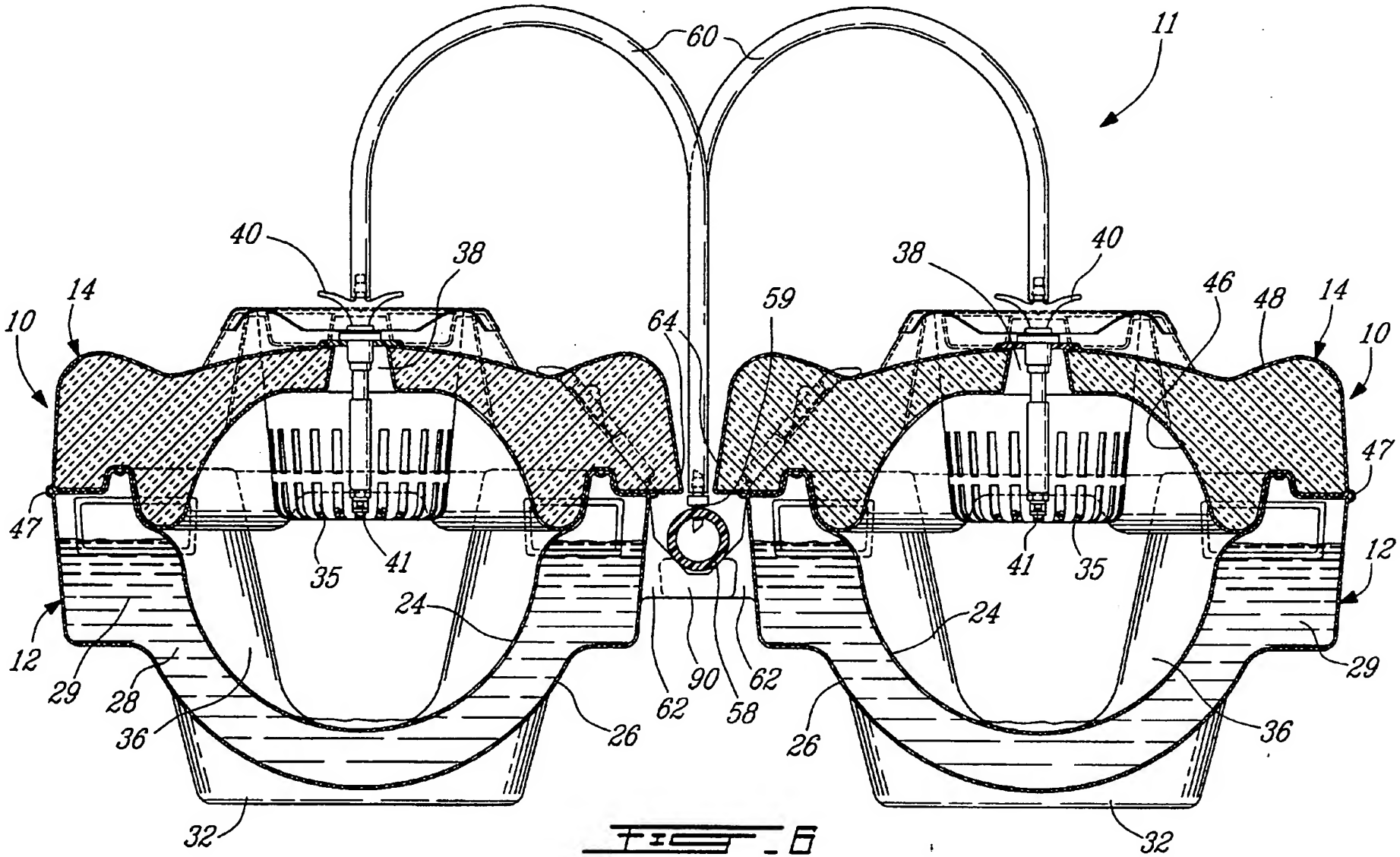

FIG. 6

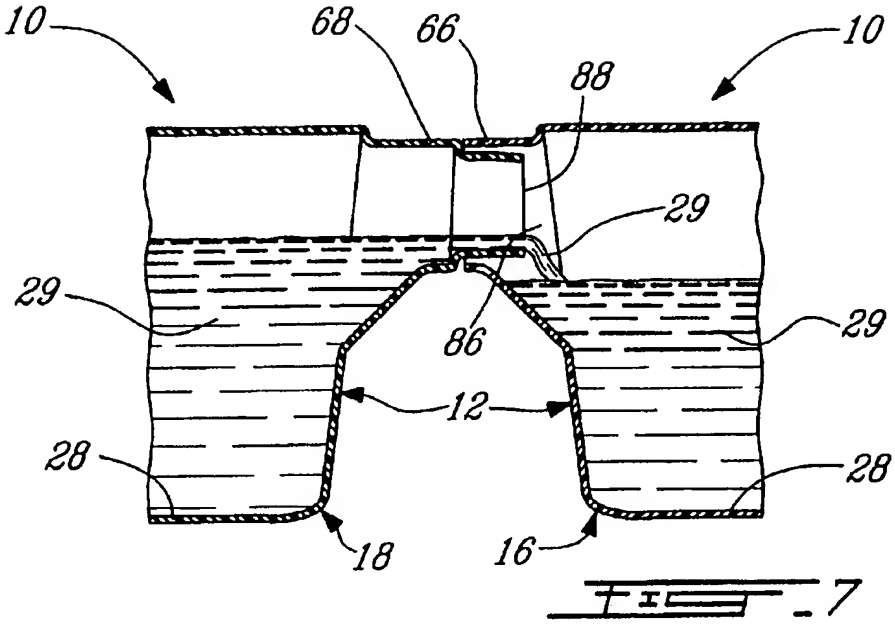
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Fig. 7

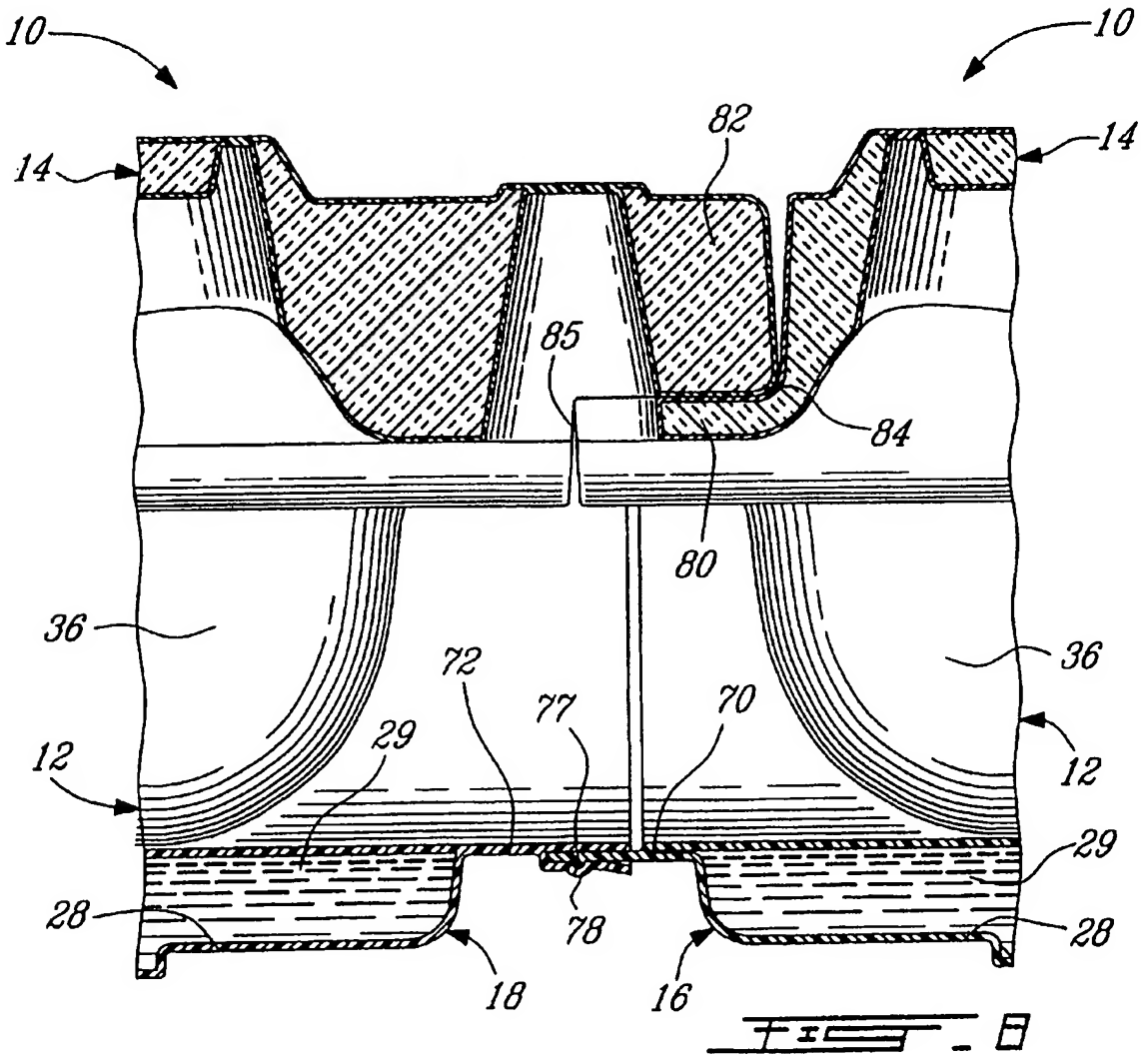
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Fig. 8

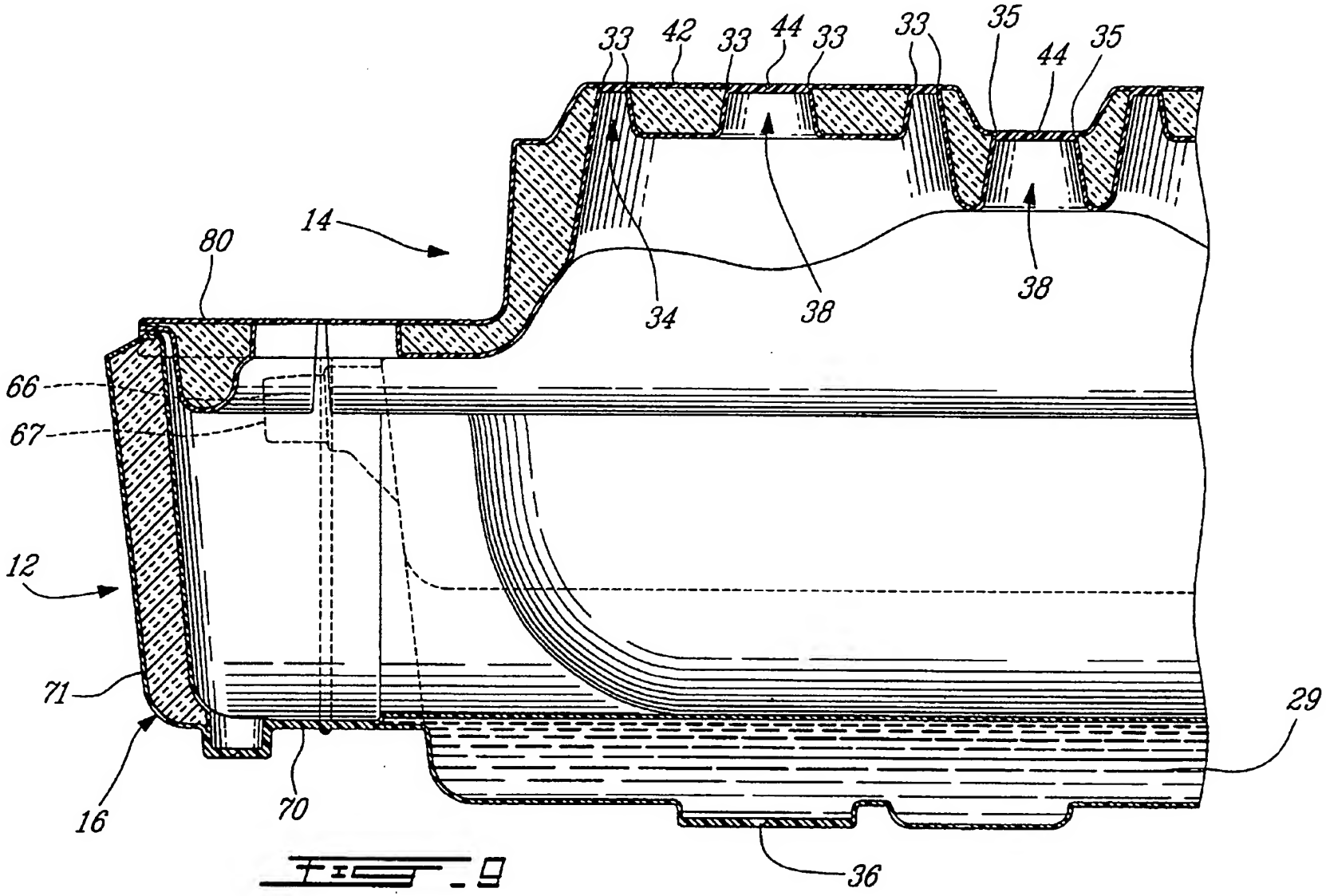

Fig. 9